Opening the Black Box of Upper Echelons: Drivers of Poor Information Processing During the Financial

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Motivation

- Why most directors in banks in the forefront of the financial crisis did not have the foresight to predict the problems of taking on too much risk?
- Lack of heterogeneity and of differentiated viewpoints in boards?
Theoretical Background

- **Theory of upper echelons**
  - Understanding the mental models of top managers in explaining the choices they make
  - Responses depend on the interpretation of the situation

- **Psychological economics**
  - Cognitive and emotional constraints of individuals should be included into mainstream economic theory
  - Under risk and uncertainty individuals use simple rules of thumb or heuristics and human decisions can be constrained by emotions

- **Contributions of psychological economics**
  - Few studies in theory of upper echelon ask if executive characteristics dependent on the situation, i.e. they limit field of vision, select perceptions and interpretations, and thus affect choices
Research Gap: Theory vs. Empirical Investigations

**Theoretical Model:**
- Environmental & Organizational Stimuli
- Black Box
  - Limited Field of Vision, Selective Perception, Interpretation
  - Behavioral assumptions
  - Strategic Choices

**Empirical Model:**
- Environmental & Organizational Characteristics
- Individual Characteristics
- Firm Performance
Research Contributions

Study 1: Micro-processes

First Harbingers of the Financial Crisis

Cognitive Base & Values of Financial Experts and Males

Behavioral Anomalies

Wrong Stock Market Predictions

Wrong Strategic Choices

Study 2: Macro-organizational phenomena

Percentage of Financial Experts and Males within TMTs of Banks

Financial Crisis

Firm Performance

CREMA
Micro-processes of information processing

- H1. In situations of uncertainty after which the market goes into decline non-financial experts make better stock market forecasts than financial experts. (Availability or representativeness bias, Overconfidence, Anchoring, Illusion of control)

- H2. In situations of uncertainty after which the market goes into decline women make better stock market forecasts than men. (Lower risk aversion, lower Overconfidence)
Macro-org. phenomena of information processing

- Focus on dominant coalition, i.e. TMT composition
- H3. The higher the percentage of males and financial experts within a TMT, the lower the stock market performance of the firm in situations of uncertainty, after which the market goes into decline.
  (fast & good decisions of experts and persons with lower risk-aversion & low group think effects)
- The higher the percentage of males and financial experts within a TMT, the higher the stock market performance of the firm in situations of certainty in which the market is stable or grows.
  (expectations of males, experts are more biased & Group think effects)
Study 1: Micro-processes of information processing

- UBS stock price performance
- Swiss Market Index (SMI) performance
Study 1: Dependent Variable

What do you think: How the UBS stock price will develop within the next two months?

- UBS stock price will rise massive: 10%
- UBS stock price will rise: 44%
- UBS stock price will be constant: 24%
- UBS stock price will fall: 15%
- UBS stock price will fall massive: 6%
**Study 1: Main Results**

<table>
<thead>
<tr>
<th></th>
<th>OLS Regression</th>
<th>Clumped OLS Regression</th>
<th>Ordinal Regression (Logit)</th>
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<tbody>
<tr>
<td></td>
<td>B</td>
<td>SD</td>
<td>Sig.</td>
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<tr>
<td>(Constant)</td>
<td>4.07</td>
<td>.28</td>
<td>**</td>
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<tr>
<td>Threshold [1; stock price will rise massive]</td>
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<td>Threshold [2; stock price will rise]</td>
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<tr>
<td>Threshold [3; stock price will be constant]</td>
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<td>Knowledge</td>
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<td>Stock market &amp; finance courses</td>
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<td>Beliefs</td>
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<td>Trust in optimal contracts</td>
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<td>Demographics</td>
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<tr>
<td>Male</td>
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<tr>
<td>R/ Pseudo-R</td>
<td>.28</td>
<td>.23</td>
<td>.26</td>
</tr>
<tr>
<td>R-Square/ Cox and Snell</td>
<td>.08</td>
<td>.05</td>
<td>.07</td>
</tr>
<tr>
<td>Adj. R-Square/ McFadden</td>
<td>.07</td>
<td>.04</td>
<td>.03</td>
</tr>
<tr>
<td>F-Value/ Chi-Square</td>
<td>11.38</td>
<td>**</td>
<td>7.24</td>
</tr>
<tr>
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</table>

Legend: Dependent variable accuracy of forecasting prediction of the change in the UBS stock price in the next 2 months. *p < 0.05, **p < 0.01.
Study 1: Main Results

- **Gender**
  - Female:
    - Low: 39%
    - High: 23%
- **Trust in optimal contracts**
  - Low: 23%
  - High: 12%

- **Gender**
  - Female:
    - No: 42%
    - Yes: 27%
- **Stock market & finance courses**
  - No: 27%
  - Yes: 13%
Study 2: Macro-org. phenom. of information processing

TMT composition 2006 of Swiss Banks

Non-executives

Executives

Performance before the financial crisis (2006, 12 months)

Performance after the financial crisis (2008/9, 12 months)
Study 2: Results for Non-executive directors

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>(Constant)</td>
<td>44.38 12.52 **</td>
<td>-33.99 17.64 †</td>
</tr>
<tr>
<td><strong>Non-executive directors</strong></td>
<td></td>
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</tr>
<tr>
<td>Percent of Females</td>
<td>-24.02 38.01</td>
<td>39.70 53.56</td>
</tr>
<tr>
<td>Percent of non-economists</td>
<td>-36.50 15.36 *</td>
<td>55.35 21.65 *</td>
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<tr>
<td><strong>Control variables</strong></td>
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<tr>
<td>Number of employees (log.)</td>
<td>-.03 1.60</td>
<td>-4.07 2.26 †</td>
</tr>
<tr>
<td>Type of bank (1=canton)</td>
<td>-16.08 6.63 *</td>
<td>28.31 9.35 **</td>
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<tr>
<td>R</td>
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<td>.67</td>
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<tr>
<td>R-Square</td>
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<tr>
<td>Adj. R-Square</td>
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<tr>
<td>F-Value</td>
<td>2.97 *</td>
<td>5.07 **</td>
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Before the financial crisis
After the financial crisis

Performance after the financial crisis (1.3.2008-1.3.2009)

-60.00
-30.00
0.00

Number of female non-executive directors

0 1 2 3
Conclusion

- **Theoretical/Academic Implications:** An important moderator within the theory of upper echelons is financial market discipline during turbulent periods, explaining why the performance of homogenous TMTs is volatile and why the performance of diverse TMTs is sustainable. The theory can be strengthened by including the insights of psychological economics as a micro-foundation.

- **Practitioner/Policy Implications:** For a sustainable performance, greater TMT diversity in public companies should be instituted by the board of directors.